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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/560,666      | 12/12/2005  | Robert George Hercus | 56484/N348          | 2296             |

23363 7590 01/17/2007  
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| EXAMINER |
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BROWN JR, NATHAN H

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| ART UNIT | PAPER NUMBER |
|----------|--------------|

2121

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE  | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS                               | 01/17/2007 | PAPER         |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

# Office Action Summary

Application No.

10/560,666

Applicant(s)

HERCUS, ROBERT GEORGE

Examiner

Nathan H. Brown, Jr.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE (3) MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 12 December 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-102 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-102 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date. _____ | 6) <input type="checkbox"/> Other: _____  |

## Examiner's Detailed Office Action

1. This Office is responsive to application 10/560,666, filed December 12, 2005.
2. Claims 1-102 have been examined.

## Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 1-20, 21-30, 31-32, and 97-102 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter: non-functional descriptive material and mathematical abstraction. Claims 1-20, 21-30, 31-32, and 97-102 recite a "neural network comprising ... elemental ... and ... structural neurons ... able to be associated via active connections" In each case, the claims recite a computer related manufacture having no data structure and no descriptive language that define any structural and functional interrelationships between the data structure and other claimed aspects of the invention which permit the data structure's functionality to be realized. Claims 1-20, 21-30, 31-32, and 97-102 are therefore a non-functional descriptive listing of parts of a mathematical abstraction and are therefore non-statutory under 35 U.S.C. 101. Examiner notes that although claim 102 recites a number of

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useful applications of neural networks, no useful, concrete, or tangible result in any area of application is recited.

5. Claims 50-58 rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter: non-functional descriptive material and mathematical abstraction.

Claims 50-58 recite a “neuronal assembly ... comprising an initiating neuron, an associated neuron, and an associating neuron operatively connected to the initiating neuron and the associated neuron”. Claims 50-58 are therefore a non-functional descriptive listing of parts of a mathematical abstraction and are non-statutory under 35 U.S.C. 101 for the same reasons given for claims 1-20, 21-30, 31-32, and 97-102.

6. Claims 33-35, 36-38, 39, and 40 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter: non-function descriptive material. Claims 33 recites a “neural network comprising ... neurons being represented by a unique addressable node in an array ...”. Claims 36 recites a “neural network comprising a plurality of nodes in an array, each node comprising at least one pointer, each pointer being a data element of the node; each data element representing a unique address of a specific node ...”. Claim 39 recites a “neural network comprising a plurality of neurons, each neuron being stored as a unique node of an addressable array ...”. Claim 40 recites a “neural network comprising a plurality of neurons represented by an array having pointers for providing expression ...”. In each case, the claims recite a computer related manufacture having data structures which meet the IEEE definition of data structure. However, in no claim are the data structures disclosed as being combined with a

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non-paper medium, which is a tangible physical object. Therefore, claims 33-35, 36-38, 39, and 40 provide a non-functional descriptive listing of parts of a mathematical abstraction to be implemented in a computer related fashion. Further, no physical transformation is recited by the claims and no result of the combining of parts is ever recited. The claims therefore recite no useful, concrete, or tangible result. Claims 33-35, 36-38, 39, and 40 are clearly non-statutory under 35 U.S.C. 101.

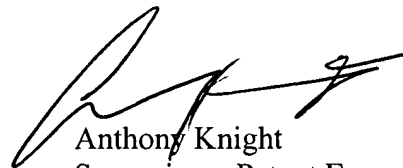
7. Claims 59-96 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter: mathematical abstraction and algorithm. Claim 59 recites "method for creating an association of neurons in a neural network". Claim 59 recites a process and clearly includes the 101 judicial exceptions of mathematical abstraction and algorithm. Claim 59 recites no physical transformation and no real-world result of activating and firing the different types of neurons in the network is ever recited. The claim, therefore recites no useful, concrete, and tangible result. Claims 59-96 are therefore non-statutory under 35 U.S.C. 101.

Applicant should note that no prior art has been applied to the claims. No opinion is expressed with regards to the patentability of the claims over any art in this office action, since applicant's response to the rejection under 35 USC 101 should impact the scope and applicability of any art to the claims.

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## Correspondence Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan H. Brown, Jr. whose telephone number is 571-272- 8632. The examiner can normally be reached on M-F 0830-1700. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight can be reached on 571-272-3687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Anthony Knight  
Supervisory Patent Examiner  
Tech Center 2100

Nathan H. Brown, Jr.  
January 3, 2007